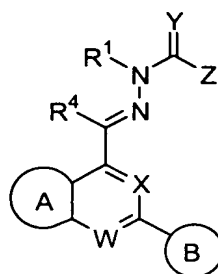


WHAT IS CLAIMED IS:

1. A compound having the formula:



wherein

W and X are independently selected from the group consisting of N and CH₃;

Y is selected from the group consisting of O, S and N(R);

wherein R is selected from the group consisting of H, CN, NO₂, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)alkenyl and (C₂-C₁₀)alkynyl;

Z is selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₂-C₁₀)alkenyl, (C₂-C₁₀)alkynyl and NR²R³;

R^1 , R^2 and R^3 are independently selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)alkenyl, (C₂-C₁₀)alkynyl, (C₁-C₁₀)heteroalkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, aryl, aryl(C₁-C₄)alkyl, aryl(C₁-C₄)heteroalkyl, heteroaryl(C₁-C₄)alkyl, heteroaryl(C₁-C₄)heteroalkyl and perfluoro(C₁-C₆)alkyl; and wherein when Z is NR^2R^3 , R^2 and R^3 can be combined to form a 5- to 7-membered heterocyclyl ring;

R⁴ is selected from the group consisting of H, (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl, (C₄-C₇)cycloalkyl-alkyl, (C₂-C₆)alkenyl and (C₂-C₆)alkynyl;

A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system, said ring system being mono- or bicyclic wherein said mono- or bicyclic rings are selected from the group consisting of five- and six-membered rings that are aromatic or partially or completely saturated; and

B is a substituted or unsubstituted five- or six-membered ring which is aromatic or partially or completely saturated, containing at least one nitrogen atom, and from 0 to 3 additional heteroatoms, wherein the B ring substituents are selected from the group consisting of halogen, CF₃, CF₃O, (C₁-C₆)alkyl,

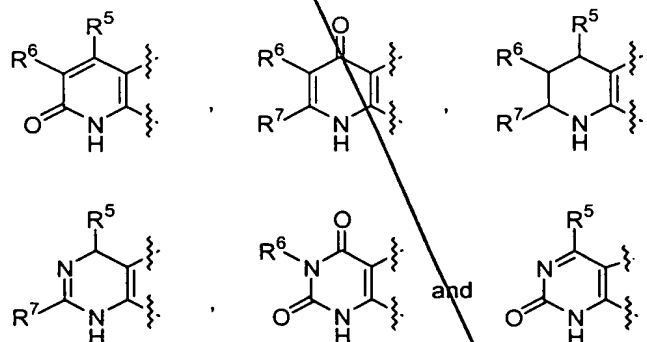
perfluoro(C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-C₆)heteroalkyl, (C₁-C₆)alkoxy, (C₁-C₆)thioalkoxy, amino, (C₁-C₆)alkylamino, di(C₁-C₆)alkylamino, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, cyano, nitro, sulfonamido, (C₁-C₆)acyl, (C₁-C₆)acylamino, (C₁-C₆)alkoxycarbonyl, (C₁-C₆)alkoxycarbonyl(C₁-C₆)alkyl, carboxamido and (C₁-C₆)heteroalkoxy.

2. A compound of claim 1, wherein W is N and X is CH.
3. A compound of claim 1, wherein W is N and X is N.
4. A compound of claim 1, wherein W is CH and X is N.
5. A compound of claim 1, wherein W is CH and X is CH.

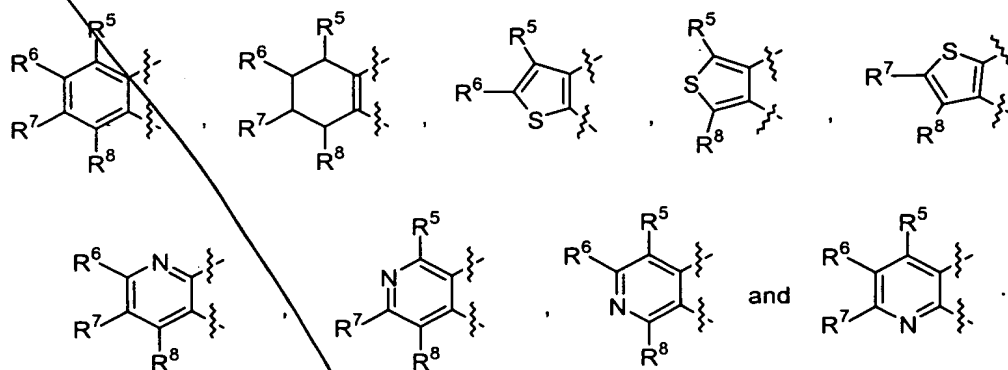
6. A compound of claim 2, wherein Y is selected from the group consisting of O and S.

7. A compound of claim 2, wherein Y is O.
8. A compound of claim 2, wherein Y is S.
9. A compound of claim 2, wherein Z is NR²R³.
10. A compound of claim 6, wherein R⁴ is H.

11. A compound of claim 1, wherein A is selected from the group consisting of:



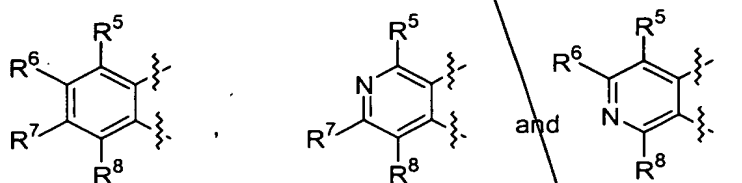
12. A compound of claim 1, wherein A is selected from the group consisting of:



wherein

R^5 , R^6 , R^7 and R^8 are independently selected from the group consisting of H, halogen, CF_3 , (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, (C_1-C_6) heteroalkyl, (C_1-C_6) alkoxy, (C_1-C_6) thioalkoxy, amino, (C_1-C_6) alkylamino, $di(C_1-C_6)$ alkylamino, (C_3-C_{10}) cycloalkyl, (C_4-C_{10}) cycloalkyl-alkyl, (C_3-C_{10}) cycloheteroalkyl, (C_3-C_{10}) cycloheteroalkyl-alkyl, cyano, nitro, (C_1-C_6) acyl, (C_1-C_6) acylamino, (C_1-C_6) alkoxycarbonyl, (C_1-C_6) alkoxycarbonyl (C_1-C_6) alkyl, $CONH_2$, $CO-NH-(C_1-C_6)$ alkyl, $CO-N[(C_1-C_6)alkyl]_2$, SO_2NH_2 , $SO_2NH-(C_1-C_6)alkyl$, $SO_2N-[(C_1-C_6)alkyl]_2$ and (C_1-C_6) heteroalkoxy; or two adjacent R groups selected from R^5 , R^6 , R^7 and R^8 , can be linked together to form a new 5- or 6-membered carbocyclic or heterocyclic ring.

13. A compound of claim 12, wherein W is N; X is CH; Y is O or S; and A is selected from the group consisting of:



14. A compound of claim 1, wherein B contains a nitrogen atom at a position two atoms away from the atom attaching B to the remainder of the molecule.

15. A compound of claim 1, wherein B contains a nitrogen atom at the point of attachment of B to the remainder of the molecule.

16. A compound of claim 1, wherein B is selected from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-methylimidazol-

1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

17. A compound of claim 1, wherein B is selected from the group consisting of substituted or unsubstituted imidazolyl, substituted or unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

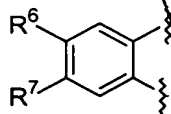
18. A compound of claim 13, wherein B contains a nitrogen atom at a position two atoms away from the atom attaching B to the remainder of the molecule.

19. A compound of claim 13, wherein B contains a nitrogen atom at the point of attachment of B to the remainder of the molecule.

20. A compound of claim 13, wherein B is selected from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

21. A compound of claim 13, wherein B is selected from the group consisting of substituted or unsubstituted imidazolyl, substituted or unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

22. A compound of claim 1, wherein W is N; X is CH; Y is O or S; Z is H, CH₃, NH₂ or NHCH₃; R¹ is H, (C₁-C₆)alkyl, (C₁-C₁₀)heteroalkyl, (C₄-C₁₀)cycloheteroalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, aryl(C₁-C₄)alkyl, aryl(C₁-C₄)heteroalkyl, heteroaryl(C₁-C₄)alkyl, heteroaryl(C₁-C₄)heteroalkyl, or perfluoro(C₁-C₆)alkyl; R⁴ is H; A represents

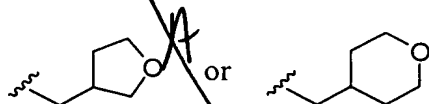


wherein R⁶ and R⁷ are independently selected from the group consisting of H, halogen, CF₃, CF₃O, (C₁-C₄)alkyl, (C₂-C₄)alkenyl, (C₂-C₄)alkynyl, (C₁-C₄)heteroalkyl, (C₃-C₁₀)cycloheteroalkyl-alkyl and cyano; and B is a five-membered aromatic ring system containing at least one nitrogen atom.

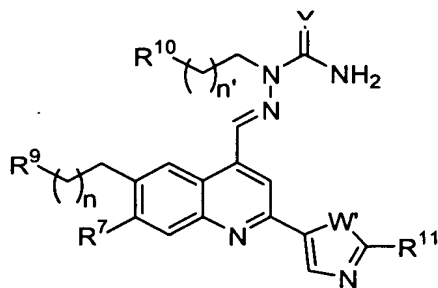
23. A compound of claim 22, wherein Y is S.

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A'
- 1 24. A compound of claim 22, wherein Z is NR^2R^3 .
- 1 25. A compound of claim 22, wherein Z is NH_2 .
- 1 26. A compound of claim 22, wherein R^1 is $(\text{C}_1\text{-C}_6)\text{alkyl}$, $(\text{C}_1\text{-C}_6)\text{heteroalkyl}$ or $(\text{C}_3\text{-C}_{10})\text{cycloheteroalkyl-alkyl}$.
- 2
- 1 27. A compound of claim 22, wherein B is a five-membered aromatic
- 2 ring system containing 1-2 nitrogen atoms and 0-1 sulfur atoms.
- 1 28. A compound of claim 27, wherein B is unsubstituted or substituted
- 2 by $(\text{C}_1\text{-C}_3)\text{alkyl}$, CF_3 , cyano, or halogen.
- 1 29. A compound of claim 22, wherein Z is NH_2 ; R^6 is selected from the
- 2 group consisting of H, halogen, CF_3 , CF_3O , $(\text{C}_1\text{-C}_4)\text{alkyl}$, $(\text{C}_2\text{-C}_4)\text{alkenyl}$, $(\text{C}_1\text{-C}_4)\text{heteroalkyl}$, $(\text{C}_3\text{-C}_{10})\text{cycloheteroalkyl-alkyl}$ and cyano, wherein the alkyl, alkenyl and
- 3 heteroalkyl groups optionally bear additional substituents selected from cyano,
- 4 carboxamido, $(\text{C}_1\text{-C}_3)\text{alkylsulfonyl}$ or $(\text{C}_1\text{-C}_3)\text{alkoxy}$; and R^7 is selected from the group
- 5 consisting of H, halogen, CF_3 , CF_3O , $(\text{C}_1\text{-C}_4)\text{alkyl}$, $(\text{C}_2\text{-C}_4)\text{alkenyl}$, $(\text{C}_2\text{-C}_4)\text{alkynyl}$, $(\text{C}_1\text{-C}_4)\text{heteroalkyl}$ and cyano.
- 6
- 1 30. A compound of claim 29, wherein R^6 is selected from the group
- 2 consisting of $\text{CH}_2(\text{CH}_2)_m\text{CN}$, $\text{CH}_2(\text{CH}_2)_n\text{SO}_2\text{CH}_3$ and $\text{CH}_2(\text{CH}_2)_n\text{OCH}_3$, wherein the
- 3 subscript n is an integer from 0 to 2.

- 1 31. A compound of claim 29, wherein R^6 is



- Sub
A'
- 1 32. A compound of claim 29, wherein R^7 is selected from H, halogen,
- 2 CF_3 and $(\text{C}_1\text{-C}_4)\text{alkyl}$.
- 1 33. A compound of claim 29, wherein R^7 is methyl.
- 1 34. A compound of claim 1, having the formula:



wherein Y is O, S or N-CN; W' is N(CH₃), N(CF₃), N(CH₂CH₃), O or S; the subscripts n and n' are independently integers from 0 to 3; R⁷ is H, halogen, CF₃, CF₃O, (C₁-C₄)alkyl, (C₂-C₄)alkenyl, (C₂-C₄)alkynyl, (C₁-C₄)heteroalkyl or cyano; R⁹ is CN, CONH₂, CO-NH-(C₁-C₆)alkyl, CO-N[(C₁-C₆)alkyl]₂, CO-NH-(C₁-C₆)heteroalkyl, CO-N[(C₁-C₆)heteroalkyl]₂, S(O)_{n''}-(C₁-C₆)alkyl, S(O)_{n''}-(C₁-C₆)heteroalkyl, heteroaryl, (C₁-C₆)alkoxy or (C₃-C₆)cycloheteroalkyl, wherein each n'' is independently an integer of 0 to 2; R¹⁰ is NH₂, NH-(C₁-C₆)alkyl, N[(C₁-C₆)alkyl]₂, NH-(C₁-C₆)heteroalkyl, N[(C₁-C₆)heteroalkyl]₂, (C₁-C₆)heteroalkyl, S(O)_{n''}-(C₁-C₆)alkyl, S(O)_{n''}-(C₁-C₆)heteroalkyl, aryl, heteroaryl, O-(C₁-C₆)alkyl, O-(C₁-C₆)heteroalkyl or (C₃-C₈)cycloheteroalkyl; and R¹¹ is H, CF₃, NH₂, NH-(C₁-C₆)alkyl, N[(C₁-C₆)alkyl]₂, halogen or (C₁-C₃)alkyl.

35. A compound of claim 34, wherein Y is O or S; W' is N-CH₃; n is 2; n' is 1-3; R⁹ is cyano, CONH₂, SO₂-(C₁-C₆)alkyl, (C₁-C₆)alkoxy or (C₃-C₆)cycloheteroalkyl; R¹⁰ is NH-(C₁-C₆)alkyl, N[(C₁-C₆)alkyl]₂, NH-(C₁-C₆)heteroalkyl, N[(C₁-C₆)heteroalkyl]₂, O-(C₁-C₆)alkyl, O-(C₁-C₆)heteroalkyl, (C₁-C₆)alkoxy or (C₃-C₈)cycloheteroalkyl; and R¹¹ is H.

36. A compound of claim 22, wherein B contains a nitrogen atom at a position two atoms away from the atom attaching B to the remainder of the molecule.

37. A compound of claim 22, wherein B contains a nitrogen atom at the point of attachment of B to the remainder of the molecule.

38. A compound of claim 22, wherein B is selected from the group consisting of substituted or unsubstituted imidazolyl, substituted or unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

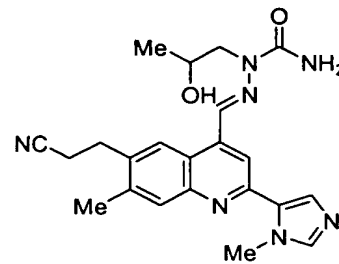
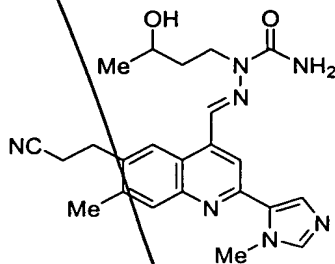
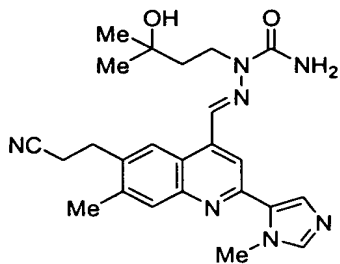
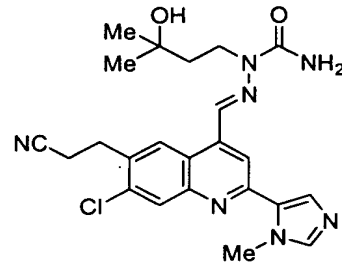
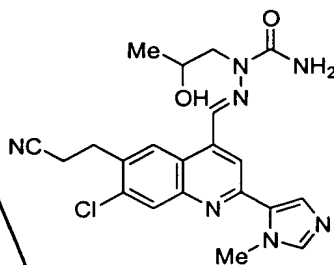
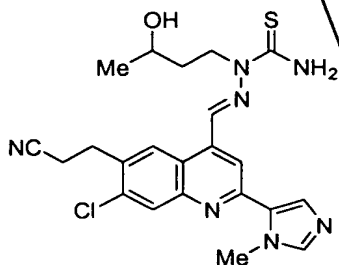
39. A compound of claim 22, wherein B is selected from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-methylimidazol-

3 1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-methyl-1,3,4-
4 triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 40. A compound of claim 1, wherein Y is S; Z is NH₂ and R¹ is (C₁-
2 C₆)alkyl.

1 41. A compound of claim 40, wherein R¹ is methyl.

1 42. A compound of claim 1, wherein said compound is selected from the
2 group consisting of:



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Chemical structure

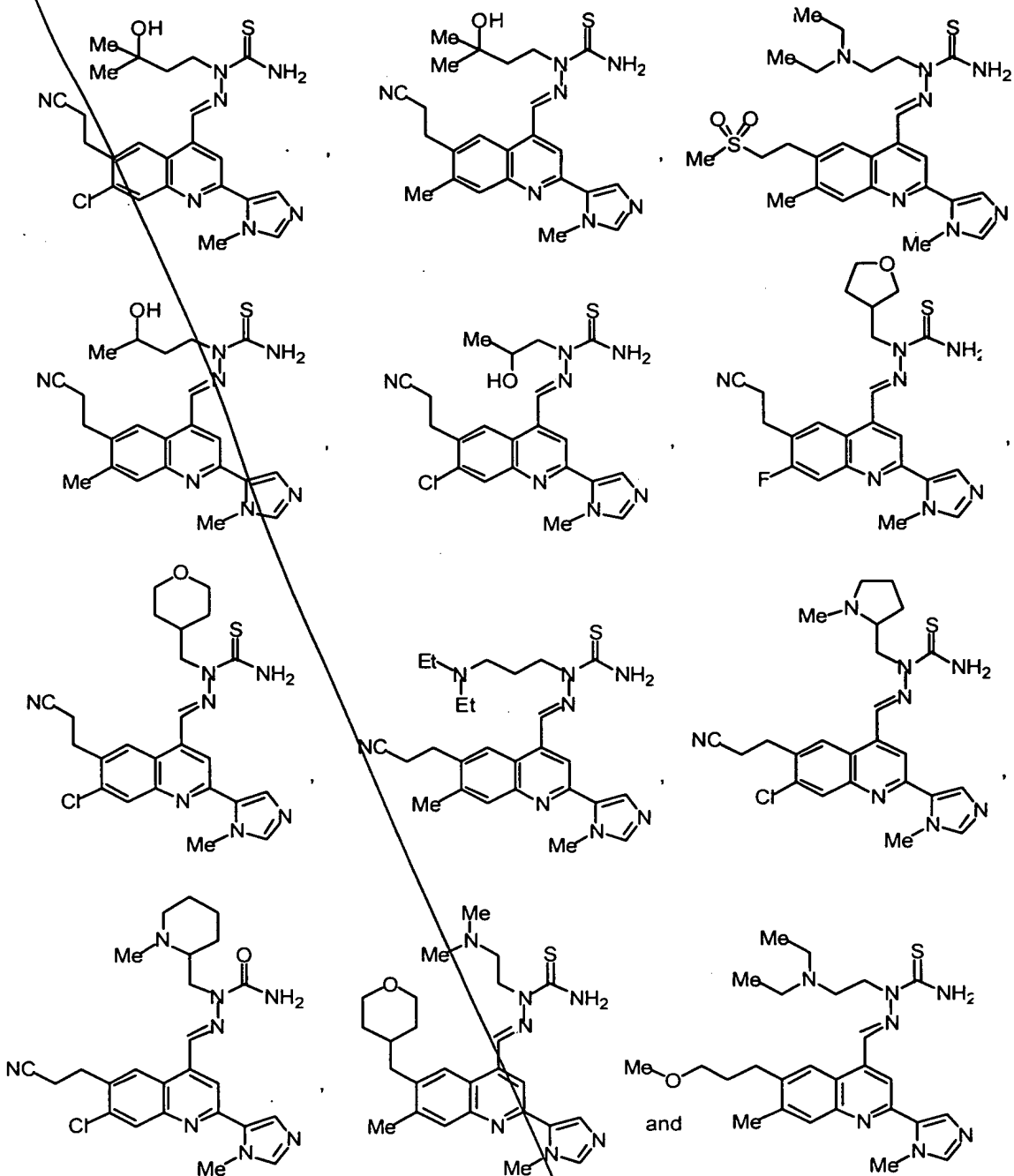
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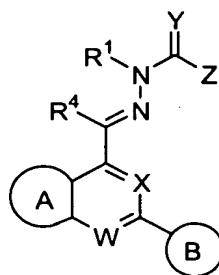
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43. A composition comprising a pharmaceutically acceptable excipient and a compound having the formula:





wherein

W and X are independently selected from the group consisting of N and CH;

Y is selected from the group consisting of O, S and N(R);

wherein R is selected from the group consisting of H, CN, NO₂, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)alkenyl and (C₂-C₁₀)alkynyl;

Z is selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₂-C₁₀)alkenyl, (C₂-C₁₀)alkynyl and NR²R³;

R¹, R² and R³ are independently selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)alkenyl, (C₂-C₁₀)alkynyl, (C₂-C₁₀)heteroalkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, aryl, aryl(C₁-C₄)alkyl, aryl(C₂-C₄)heteroalkyl, heteroaryl(C₂-C₄)alkyl, heteroaryl(C₂-C₄)heteroalkyl and perfluoro(C₁-C₆)alkyl; and wherein when Z is NR²R³, R² and R³ can be combined to form a 5- to 7-membered ring; and wherein when Y is N(R), R and R¹ are optionally combined to form a 5- to 7-membered ring;

R⁴ is selected from the group consisting of H, (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl, (C₄-C₇)cycloalkyl-alkyl, (C₂-C₆)alkenyl and (C₂-C₆)alkynyl;

A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system, said ring system being mono- or bicyclic wherein said mono- or bicyclic rings are selected from the group consisting of five- and six-membered rings that are aromatic or partially or completely saturated; and

B is a substituted or unsubstituted five- or six-membered ring which is aromatic or partially or completely saturated, containing at least one nitrogen atom, and from 0 to 3 additional heteroatoms, wherein the B ring substituents are selected from the group consisting of halogen, CF₃, CF₃O, (C₁-C₆)alkyl, perfluoro(C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-C₆)heteroalkyl, (C₁-C₆)alkoxy, (C₁-C₆)thioalkoxy, amino, (C₁-C₆)alkylamino, di(C₁-

Sub
A1

32 C₆)alkylamino, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-
33 C₁₀)cycloheteroalkyl, cyano, nitro, sulfonamido, (C₁-C₆)acyl, (C₁-
34 C₆)acylamino, (C₂-C₆)alkoxycarbonyl, (C₂-C₆)alkoxycarbonyl(C₁-
35 C₆)alkyl, carboxamido and (C₁-C₆)heteroalkoxy.

1 44. A composition in accordance with claim 43, wherein W is N and X
2 is CH.

1 45. A composition in accordance with claim 43, wherein W is N and X
2 is N.

1 46. A composition in accordance with claim 43, wherein W is CH and
2 X is N.

1 47. A composition in accordance with claim 43, wherein W is CH and
2 X is CH.

1 48. A composition in accordance with claim 43, wherein Y is selected
2 from the group consisting of O and S.

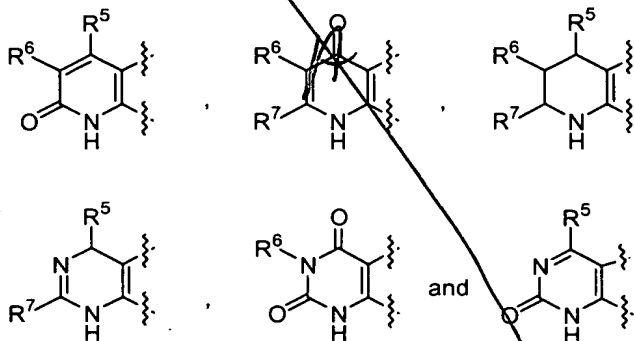
1 49. A composition in accordance claim 43, wherein Y is O.

1 50. A composition in accordance claim 43, wherein Y is S.

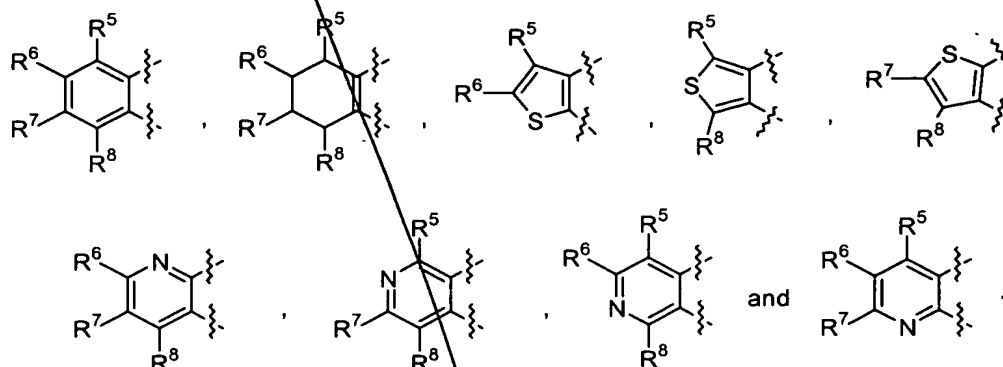
1 51. A composition in accordance claim 43, wherein Z is NR²R³.

1 52. A composition in accordance with claim 48, wherein R⁴ is H.

1 53. A composition in accordance with claim 43, wherein A is selected
2 from the group consisting of:

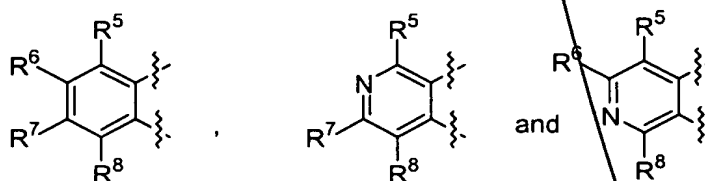


1 **54.** A composition in accordance with claim 43, wherein A is selected
2 from the group consisting of:



5 R^5 , R^6 , R^7 and R^8 are independently selected from the group consisting of H,
6 halogen, CF_3 , (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, $(C_1-$
7 $C_6)$ heteroalkyl, (C_1-C_6) alkoxy, (C_1-C_6) thioalkoxy, amino, $(C_1-$
8 $C_6)$ alkylamino, di (C_1-C_6) alkylamino, (C_3-C_{10}) cycloalkyl, $(C_4-$
9 $C_{10})$ cycloalkyl-alkyl, (C_3-C_{10}) cycloheteroalkyl, (C_3-C_{10}) cycloheteroalkyl-
10 alkyl, cyano, nitro, (C_1-C_6) acyl, (C_1-C_6) acylamino, (C_2-C_6) alkoxycarbonyl,
11 (C_3-C_6) alkoxycarbonylalkyl, $CONH_2$, $CO-NH-(C_1-C_6)$ alkyl, $CO-N[(C_1-$
12 $C_6)$ alkyl] $_2$, SO_2NH_2 , $SO_2NH-(C_1-C_6)$ alkyl, $SO_2N-[(C_1-C_6)$ alkyl] $_2$ and $(C_1-$
13 $C_6)$ heteroalkoxy; or two adjacent R groups can be linked together to form
14 a new 5- or 6-membered carbocyclic or heterocyclic ring.

1 **55.** A composition in accordance with claim 43, wherein W is N; X is
2 CH; Y is O or S; and A is selected from the group consisting of:



1 **56.** A composition in accordance with claim 43, wherein B contains a
2 nitrogen atom at a position two atoms away from the atom attaching B to the remainder of
3 the molecule.

1 57. A composition in accordance with claim 43, wherein B contains a
2 nitrogen atom at the point of attachment of B to the remainder of the molecule.

1 58. A composition in accordance with claim 43, wherein B is selected
2 from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-
3 methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-
4 methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 59. A composition in accordance with claim 43, wherein B is selected
2 from the group consisting of substituted or unsubstituted imidazolyl, substituted or
3 unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

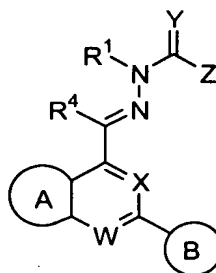
1 60. A composition in accordance with claim 55, wherein B contains a
2 nitrogen atom at a position two atoms away from the atom attaching B to the remainder of
3 the molecule.

1 61. A composition in accordance with claim 55, wherein B contains a
2 nitrogen atom at the point of attachment of B to the remainder of the molecule.

1 62. A composition in accordance with claim 55, wherein B is selected
2 from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-
3 methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-
4 methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 63. A composition in accordance with claim 55, wherein B is selected
2 from the group consisting of substituted or unsubstituted imidazolyl, substituted or
3 unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

1 64. A method for treating an inflammatory, metabolic or malignant
2 condition, said method comprising administering to a subject in need of such treatment,
3 an effective amount of a compound having the formula:



wherein

W and X are independently selected from the group consisting of N and CH;

Y is selected from the group consisting of O, S and N(R);

wherein R is selected from the group consisting of H, CN, NO₂, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)alkenyl and (C₂-C₁₀)alkynyl;

Z is selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₂-C₁₀)alkenyl, (C₂-C₁₀)alkynyl and NR²R³;

R¹, R² and R³ are independently selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)alkenyl, (C₂-C₁₀)alkynyl, (C₂-C₁₀)heteroalkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, aryl, aryl(C₁-C₄)alkyl, aryl(C₂-C₄)heteroalkyl, heteroaryl(C₂-C₄)alkyl, heteroaryl(C₂-C₄)heteroalkyl and perfluoro(C₁-C₆)alkyl; and wherein when Z is NR²R³, R² and R³ can be combined to form a 5- to 7-membered ring; and wherein when Y is N(R), R and R¹ are optionally combined to form a 5- to 7-membered ring;

R⁴ is selected from the group consisting of H, (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl, (C₄-C₇)cycloalkyl-alkyl, (C₂-C₆)alkenyl and (C₂-C₆)alkynyl;

A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system, said ring system being mono- or bicyclic wherein said mono- or bicyclic rings are selected from the group consisting of five- and six-membered rings that are aromatic or partially or completely saturated; and

B is a substituted or unsubstituted five- or six-membered ring which is aromatic or partially or completely saturated, containing at least one nitrogen atom, and from 0 to 3 additional heteroatoms, wherein the B ring substituents are selected from the group consisting of halogen, CF₃, CF₃O, (C₁-C₆)alkyl, perfluoro(C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-C₆)heteroalkyl, (C₁-C₆)alkoxy, (C₁-C₆)thioalkoxy, amino, (C₁-C₆)alkylamino, di(C₁-

Sub
A'

- 33 C₆alkylamino, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-
34 C₁₀)cycloheteroalkyl, cyano, nitro, sulfonamido, (C₁-C₆)acyl, (C₁-
35 C₆)acylamino, (C₂-C₆)alkoxycarbonyl, (C₂-C₆)alkoxycarbonyl(C₁-
36 C₆)alkyl, carboxamido and (C₁-C₆)heteroalkoxy.

1 65. A method in accordance with claim 64, wherein W is N and X is
2 CH.

1 66. A method in accordance with claim 64, wherein W is N and X is N.

1 67. A method in accordance with claim 64, wherein W is CH and X is
2 N.

1 68. A method in accordance with claim 64, wherein W is CH and X is
2 CH.

1 69. A method in accordance with claim 65, wherein Y is selected from
2 the group consisting of O and S.

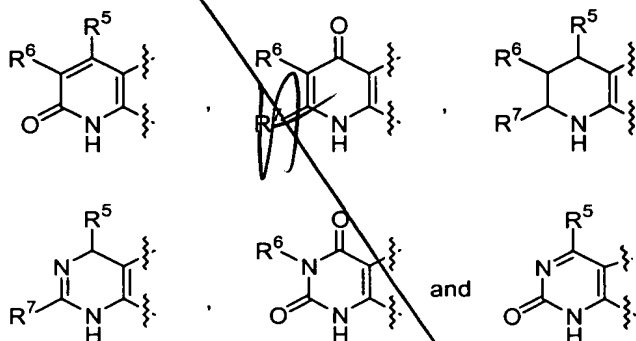
1 70. A method in accordance with claim 65, wherein Y is O.

1 71. A method in accordance with claim 65, wherein Y is S.

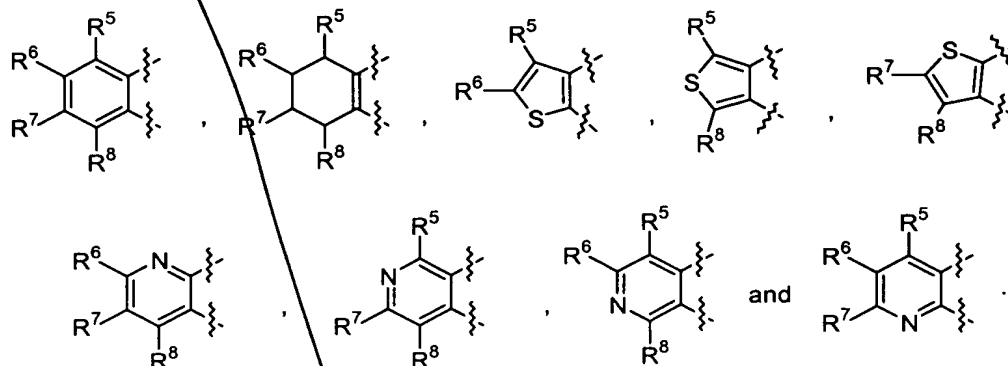
1 72. A method in accordance with claim 65, wherein Z is NR²R³.

1 73. A method in accordance with claim 69, wherein R⁴ is H.

1 74. A method in accordance with claim 64, wherein A is selected from
2 the group consisting of:



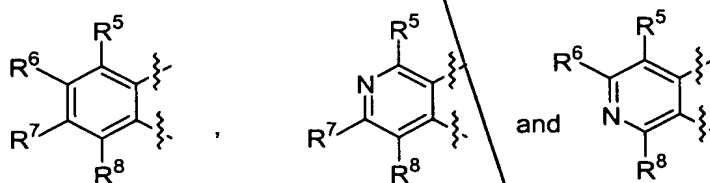
1 75. A method in accordance with claim 64, wherein A is selected from
2 the group consisting of:



3
4 wherein

5 R⁵, R⁶, R⁷ and R⁸ are independently selected from the group consisting of H,
6 halogen, CF₃, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-
7 C₆)heteroalkyl, (C₁-C₆)alkoxy, (C₁-C₆)thioalkoxy, amino, (C₁-
8 C₆)alkylamino, di(C₁-C₆)alkylamino, (C₃-C₁₀)cycloalkyl, (C₄-
9 C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, (C₃-C₁₀)cycloheteroalkyl-
10 alkyl, cyano, nitro, (C₁-C₆)acyl, (C₁-C₆)acylamino, (C₂-C₆)alkoxycarbonyl,
11 (C₃-C₆)alkoxycarbonylalkyl, CONH₂, CO-NH-(C₁-C₆)alkyl, CO-N[(C₁-
12 C₆)alkyl]₂, SO₂NH₂, SO₂NH-(C₁-C₆)alkyl, SO₂N-[(C₁-C₆)alkyl]₂ and (C₁-
13 C₆)heteroalkoxy; or two adjacent R groups can be linked together to form
14 a new 5- or 6-membered carbocyclic or heterocyclic ring.

1 76. A method in accordance with claim 64, wherein W is N; X is CH;
2 Y is O or S; and A is selected from the group consisting of:



1 77. A method in accordance with claim 64, wherein B contains a
2 nitrogen atom at a position two atoms away from the atom attaching B to the remainder of
3 the molecule.

1 78. A method in accordance with claim 64, wherein B contains a
2 nitrogen atom at the point of attachment of B to the remainder of the molecule.

1 79. A method in accordance with claim 64, wherein B is selected from
2 the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-
3 methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-
4 methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 80. A method in accordance with claim 64, wherein B is selected from
2 the group consisting of substituted or unsubstituted imidazolyl, substituted or
3 unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

1 81. A method in accordance with claim 76, wherein B contains a
2 nitrogen atom at a position two atoms away from the atom attaching B to the remainder of
3 the molecule.

1 82. A method in accordance with claim 76, wherein B contains a
2 nitrogen atom at the point of attachment of B to the remainder of the molecule.

1 83. A method in accordance with claim 76, wherein B is selected from
2 the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-
3 methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-
4 methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 84. A method in accordance with claim 76, wherein B is selected from
2 the group consisting of substituted or unsubstituted imidazolyl, substituted or
3 unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

1 85. A method in accordance with claim 64, wherein said compound is
2 administered orally.

1 86. A method in accordance with claim 64, wherein said compound is
2 administered topically.

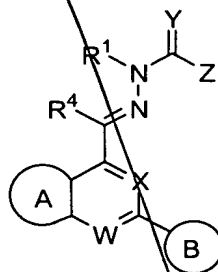
1 87. A method in accordance with claim 64, wherein said compound is
2 administered intravenously or intramuscularly.

1 88. A method in accordance with claim 64, wherein said compound is
2 administered in combination with a second therapeutic agent, said second therapeutic
3 agent being a member selected from the group consisting of prednisone, dexamethasone,
4 beclomethasone, methylprednisone, betamethasone, hydrocortisone, methotrexate,
5 cyclosporin, rapamycin, tacrolimus, antihistamine drugs, TNF antibodies, IL-1 antibodies,
6 soluble TNF receptors, soluble IL-1 receptors, TNF or IL-1 receptor antagonists, non-
7 steroidal antiinflammatory agents, COX-2 inhibitors, antidiabetic agents, and anticancer
8 agents.

1 89. A method in accordance with claim 88, wherein said administering
2 is sequential.

1 90. A method in accordance with claim 64, wherein said inflammatory,
2 metabolic or malignant condition is selected from the group consisting of rheumatoid
3 arthritis, inflammatory bowel disease, psoriasis, cancer, diabetes and septic shock.

1 91. A method for treating a condition or disorder mediated by IKK,
2 comprising
3 administering to a subject in need thereof a therapeutically effective
4 amount of a compound having the formula:



5
6 wherein

7 W and X are independently selected from the group consisting of N and CH;

8 Y is selected from the group consisting of O, S and N(R);

9 wherein R is selected from the group consisting of H, CN, NO₂, (C₁-
10 C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-
11 C₁₀)alkenyl and (C₂-C₁₀)alkynyl;

12 Z is selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl,
13 (C₄-C₁₀)cycloalkyl-alkyl, (C₂-C₁₀)alkenyl, (C₂-C₁₀)alkynyl and NR²R³;

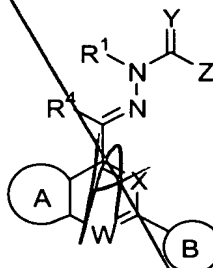
R^1, R^2 and R^3 are independently selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)alkenyl, (C₂-C₁₀)alkynyl, (C₁-C₁₀)heteroalkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, aryl, aryl(C₁-C₄)alkyl, aryl(C₁-C₄)heteroalkyl, heteroaryl(C₁-C₄)alkyl, heteroaryl(C₁-C₄)heteroalkyl and perfluoro(C₁-C₆)alkyl; and wherein when Z is NR^2R^3 , R^2 and R^3 can be combined to form a 5- to 7-membered heterocyclyl ring;

R^4 is selected from the group consisting of H, (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl, (C₄-C₇)cycloalkyl-alkyl, (C₂-C₆)alkenyl and (C₂-C₆)alkynyl;

A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system, said ring system being mono- or bicyclic wherein said mono- or bicyclic rings are selected from the group consisting of five- and six-membered rings that are aromatic or partially or completely saturated; and

B is a substituted or unsubstituted five- or six-membered ring which is aromatic or partially or completely saturated, containing at least one nitrogen atom, and from 0 to 3 additional heteroatoms, wherein the ring substituents are selected from the group consisting of halogen, CF₃, CF₃O, (C₁-C₆)alkyl, perfluoro(C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-C₆)heteroalkyl, (C₁-C₆)alkoxy, (C₁-C₆)thioalkoxy, amino, (C₁-C₆)alkylamino, di(C₁-C₆)alkylamino, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, cyano, nitro, sulfonamido, (C₁-C₆)acyl, (C₁-C₆)acylamino, (C₁-C₆)alkoxycarbonyl, (C₁-C₆)alkoxycarbonyl(C₁-C₆)alkyl, carboxamido and (C₁-C₆)heteroalkoxy.

92. A method for modulating IKK, comprising contacting a cell with a compound having the formula:



wherein

W and X are independently selected from the group consisting of N and CH;

Y is selected from the group consisting of O, S and N(R);

wherein R is selected from the group consisting of H, CN, NO₂, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)alkenyl and (C₂-C₁₀)alkynyl;

Z is selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₂-C₁₀)alkenyl, (C₂-C₁₀)alkynyl and NR²R³;

R¹, R² and R³ are independently selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)alkenyl, (C₂-C₁₀)alkynyl, (C₁-C₁₀)heteroalkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, aryl, aryl(C₁-C₄)alkyl, aryl(C₁-C₄)heteroalkyl, heteroaryl(C₁-C₄)alkyl, heteroaryl(C₁-C₄)heteroalkyl and perfluoro(C₁-C₆)alkyl; and wherein when Z is NR²R³, R² and R³ can be combined to form a 5- to 7-membered heterocyclyl ring;

R⁴ is selected from the group consisting of H, (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl, (C₄-C₇)cycloalkyl-alkyl, (C₂-C₆)alkenyl and (C₂-C₆)alkynyl;

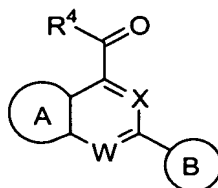
A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system, said ring system being mono- or bicyclic wherein said mono- or bicyclic rings are selected from the group consisting of five- and six-membered rings that are aromatic or partially or completely saturated; and

B is a substituted or unsubstituted five- or six-membered ring which is aromatic or partially or completely saturated, containing at least one nitrogen atom, and from 0 to 3 additional heteroatoms, wherein the B ring substituents are selected from the group consisting of halogen, CF₃, CF₃O, (C₁-C₆)alkyl, perfluoro(C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-C₆)heteroalkyl, (C₁-C₆)alkoxy, (C₁-C₆)thioalkoxy, amino, (C₁-C₆)alkylamino, di(C₁-C₆)alkylamino, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl, cyano, nitro, sulfonamido, (C₁-C₆)acyl, (C₁-C₆)acylamino, (C₁-C₆)alkoxycarbonyl, (C₁-C₆)alkoxycarbonyl(C₁-C₆)alkyl, carboxamido and (C₁-C₆)heteroalkoxy.

93. The method of Claim 92, wherein said compound is an IKK inhibitor.

3 94. The method of Claim 92, wherein said compound is an IKK
4 activator.

1 95. A method for the preparation of antiinflammation agents
2 comprising contacting a precursor compound having the formula:



3
4 wherein

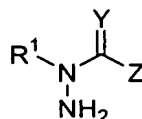
5 W and X are independently selected from the group consisting of N and CH;

6 R⁴ is selected from the group consisting of H, (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl,
7 (C₄-C₇)cycloalkyl-alkyl, (C₂-C₆)alkenyl and (C₂-C₆)alkynyl;

8 A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system,
9 said ring system being mono- or bicyclic wherein said mono- or bicyclic
10 rings are selected from the group consisting of five- and six-membered
11 rings that are aromatic or partially or completely saturated; and

12 B is a substituted or unsubstituted five- or six-membered ring which is aromatic or
13 partially or completely saturated, containing at least one nitrogen atom,
14 and from 0 to 3 additional heteroatoms, wherein the B ring substituents are
15 selected from the group consisting of halogen, CF₃, CF₃O, (C₁-C₆)alkyl,
16 perfluoro(C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-C₆)heteroalkyl,
17 (C₁-C₆)alkoxy, (C₁-C₆)thioalkoxy, amino, (C₁-C₆)alkylamino, di(C₁-
18 C₆)alkylamino, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-
19 C₁₀)cycloheteroalkyl, cyano, nitro, sulfonamido, (C₁-C₆)acyl, (C₁-
20 C₆)acylamino, (C₂-C₆)alkoxycarbonyl, (C₂-C₆)alkoxycarbonyl(C₁-
21 C₆)alkyl, carboxamido and (C₁-C₆)heteroalkoxy

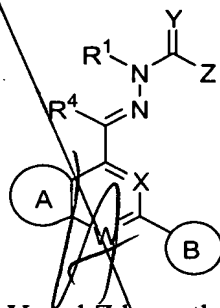
22 with a compound having the formula:



23
24 wherein

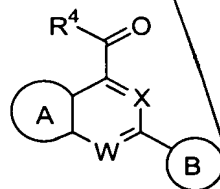
25 Y is selected from the group consisting of O, S and N(R);

26 wherein R is selected from the group consisting of H, CN, NO₂, (C₁-
 27 C₁₀)alkyl, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-
 28 C₁₀)alkenyl and (C₂-C₁₀)alkynyl;
 29 Z is selected from the group consisting of H, (C₁-C₁₀)alkyl, (C₃-C₁₀)cycloalkyl,
 30 (C₄-C₁₀)cycloalkyl-alkyl, (C₂-C₁₀)alkenyl, (C₂-C₁₀)alkynyl and NR²R³;
 31 R¹, R² and R³ are independently selected from the group consisting of H, (C₁-
 32 C₁₀)alkyl, (C₃-C₁₀)alkenyl, (C₂-C₁₀)alkynyl, (C₂-C₁₀)heteroalkyl, (C₃-
 33 C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-C₁₀)cycloheteroalkyl-alkyl,
 34 (C₃-C₁₀)cycloheteroalkyl, aryl, aryl(C₁-C₄)alkyl, aryl(C₂-C₄)heteroalkyl,
 35 heteroaryl(C₂-C₄)alkyl, heteroaryl(C₂-C₄)heteroalkyl and perfluoro(C₁-
 36 C₆)alkyl; and wherein when Z is NR²R³, R² and R³ can be combined to
 37 form a 5- to 7-membered ring; and wherein when Y is N(R), R and R¹ are
 38 optionally combined to form a 5- to 7-membered ring;
 39 under conditions sufficient to produce compounds having the formula:



40 wherein each of A, B, R¹, R⁴, W, X, Y and Z have the meanings provided above.
 41

1 96. A compound having the formula:



2
 3 wherein

4 W and X are independently selected from the group consisting of N and CH;
 5 R⁴ is selected from the group consisting of H, (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl,
 6 (C₄-C₇)cycloalkyl-alkyl, (C₂-C₆)alkenyl and (C₂-C₆)alkynyl;
 7 A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system,
 8 said ring system being mono- or bicyclic wherein said mono- or bicyclic

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9 rings are selected from the group consisting of five- and six-membered
10 rings that are aromatic or partially or completely saturated; and
11 B is a substituted or unsubstituted five- or six-membered ring which is aromatic or
12 partially or completely saturated, containing at least one nitrogen atom,
13 and from 0 to 3 additional heteroatoms, wherein the B ring substituents are
14 selected from the group consisting of halogen, CF₃, CF₃O, (C₁-C₆)alkyl,
15 perfluoro(C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-C₆)heteroalkyl,
16 (C₁-C₆)alkoxy, (C₁-C₆)thioalkoxy, amino, (C₁-C₆)alkylamino, di(C₁-
17 C₆)alkylamino, (C₃-C₁₀)cycloalkyl, (C₄-C₁₀)cycloalkyl-alkyl, (C₃-
18 C₁₀)cycloheteroalkyl, cyano, nitro, sulfonamido, (C₁-C₆)acyl, (C₁-
19 C₆)acylamino, (C₂-C₆)alkoxycarbonyl, (C₂-C₆)alkoxycarbonyl(C₁-
20 C₆)alkyl, carboxamido and (C₁-C₆)heteroalkoxy.

1 97. A compound of claim 96, wherein R⁴ is hydrogen.

1 98. A compound of claim 96, wherein R⁴ is hydrogen, Y is O or S, and
2 Z is NR²R³.

1 99. A compound of claim 96, wherein R⁴ is hydrogen, Y is O or S, Z is
2 NR²R³, and B contains a nitrogen atom at a position two atoms away from the atom
3 attaching B to the remainder of the molecule.

1 100. A compound of claim 96, B contains a nitrogen atom at the point of
2 attachment of B to the remainder of the molecule.

1 101. A compound of claim 99, wherein B is selected from the group
2 consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-methylimidazol-
3 1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-methyl-1,3,4-
4 triazolyl, and 4-methyl-1,2,4-triazol-3-yl.